

PATENT APPLICATION  
DOCKET NO. SMIO.0100001

In the United States Patent and Trademark Office

**FILING OF A UNITED STATES PATENT APPLICATION**

**Title:**

**METHOD AND SYSTEM FOR FACILITATING MEDIATED  
COMMUNICATION**

**Inventors:**

**Richard L. Schwartz  
4136 Westlake Drive  
Austin, Texas 78746**

**Stuart Evans  
Barn 3 Upper Stanway Barns  
Rushbury Shropshire  
SY67EF UK**

**Attorney of Record  
J. Gustav Larson, Reg. No. 39,263  
P.O. Box 26503  
Austin, Texas 78755-0503  
Phone (512) 306-8533  
Fax (512) 306-8559**

Express Mail Label No. EL855711109US

Date of Deposit: April 9, 2001

I hereby certify that this paper is being deposited with the U.S. Postal Service "Express Mail Post Office to Addresses" service under 37 C.F.R. Section 1.10 on the 'Date of Deposit', indicated above, and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Name of Depositor: Terri Alloway

(print or type)

Signature: Terri Alloway

# METHOD AND SYSTEM FOR FACILITATING MEDIATED COMMUNICATION

## FIELD OF THE DISCLOSURE

The disclosures herein relate generally to communication systems and more particularly  
5 to methods, systems and apparatus for facilitating virtual mediation in a voice and/or data  
environment.

## BACKGROUND

Mobile communication devices, such as cellular telephones, two-way pagers, and  
10 wireless enabled personal digital assistants, have become mainstream. Through the use of one of  
these mobile communication devices, a person is accessible for participating in interactive  
communication as they engage in their daily activities. As a result, people are now more  
accessible than ever.

However, as a result of being more accessible, people are also now more unavailable for  
participating personally in interactive communication. In many instances, even though a person  
15 is accessible for communication, it is often inconvenient or inappropriate for the person to  
personally engage in interactive communication. For example, while in a meeting, a person may  
be accessible via their mobile communication device. However, during the meeting and for any  
number of reasons, it may be inappropriate or inconvenient for the person to attend personally  
and interactively to an inbound communication. This may be the case even though it is a  
20 telephone call or text message that the person needs to or would like to respond personally and  
immediately.

Call waiting, call return, voice mail, electronic assistants and unified messaging systems  
illustrate examples of conventional communication solutions. Such conventional communication

solutions are limited in their ability to facilitate an interactive communication activity in a personalized, time-sensitive and dynamic manner when one or more participants associated with the interactive communication activity are precluded from attending personally to the interactive communication activity. Specifically, conventional solutions help with call filtering (e.g., via 5 caller id or electronic communication assistants). These conventional solutions do not address the process of actually communicating with another party beyond facilitating manual intervention on the subscriber's part or call redirection (e.g., call forwarding or divert, follow-me). That is, they may result in a communication being redirected to another device, but do not interactively and dynamically assist with the actual communication dialog.

10 Therefore, a method for enabling interactive communication to be facilitated in a manner that overcomes the limitations of such conventional communication solutions would be useful.

#### BRIEF DESCRIPTION OF THE DRAWINGS

15 FIG. 1 is a block diagram depicting an embodiment of a communication system including a mediation system capable of mediating in an environment including voice-based and data-based communication.

FIG. 2 is a block diagram depicting an embodiment of an apparatus capable of facilitating mediated follow-through operations via voice-based and data-based communication.

FIG. 3 is a diagrammatic view depicting an embodiment of a menu for specifying an availability status.

20 FIG. 4 is a diagrammatic view depicting an embodiment of a mediation subscriber policy.

FIG. 5 is a flow chart view depicting an embodiment of a method for facilitating a mediation session initiated by an inbound communication request. See diagram on paper.

FIG. 6 is a diagrammatic view depicting an embodiment of a sequence of events associated with deferring an inbound call from a mobile telephone to a mediation system.

FIG. 7 is a block diagram view depicting an embodiment of a mediation subscriber profile including a plurality of information data sets.

5 FIG. 8 is a diagrammatic view depicting an embodiment of steps for performing an operation of updating the subscriber profile.

FIG. 9 is a diagrammatic view depicting an embodiment of steps for determining context and behavior to facilitate the preparation of follow-through actions.

10 FIG. 10 is a flow chart view depicting an embodiment of a method for facilitating a mediated follow-through operation.

FIG. 11 is a flow chart view depicting an embodiment of a method for facilitating a mediation session initiated by an outbound communication request.

15 FIG. 12 is a diagrammatic view depicting an embodiment of a sequence of events associated with requesting mediation of an outbound communication using a mobile telephone.

FIG. 13 is a flow chart view depicting an embodiment of a method for performing a mediated follow-through operation to alter a pending mediated commitment in response to one or more context components being altered.

FIG. 14 is a diagrammatic view depicting an embodiment of a sequence of events for altering an availability status using a mobile telephone.

FIG. 15 is a flow chart view depicting an embodiment of a method for facilitating a mediation session for making a mediated service commitment.

FIG. 16 is a flow chart view depicting an embodiment of a method of facilitating a mediated follow-through operation with a service management system.

5 FIG. 17 is a diagrammatic view depicting an embodiment of a sequence of events for requesting a mediated service commitment using a mobile telephone.

### DETAILED DESCRIPTION

Referring to FIGS. 1 and 2, a mediation system 10 facilitates mediation between a mediation subscriber 12 and a mediated party 14. The mediation subscriber 12 communicates 10 with the mediation system 10 through a mediation subscriber communication device 16. The mediated party 14 communicates with the mediation system 10 through a mediated party communication device 18.

As depicted in FIG. 1, communication associated with the mediation subscriber communication device 16 is facilitated in a data-based manner and communication associated 15 with the mediated party communication device 18 is at least partially facilitated in a voice-based format. Accordingly, the mediation subscriber communication device 16 and the mediated party communication device 18 are devices capable of receiving and transmitting information in a data packet format and a voice-based format, respectively.

One aspect of the disclosure herein is that data-based communication is advantageous 20 relative to the mediation subscriber 12 engaging in mediation activities. Specifically, data-based communication permits the mediation subscriber 12 to manage mediation activities in a time-sensitive, concise and interactive manner. Data-based communication permits the mediation party 12 to engage in mediation activities in situations where voice-based communication would

be inconvenient, inappropriate or both. For example, voice-based communication proves to be a less than desirable and effective in situations such as meetings or public spaces where audibly responding to communication activities is often inconvenient and inappropriate. Through the use of data-based communication, the mediation party 12 may engage in mediation activities in a 5 non-disruptive manner by responding in a data-based format to information presented in a data-based format.

The use of data-based communication provides a quick, less disruptive interrupt for the mediation subscriber. Responding to communications in a data-based manner rather than a voice-based manner only requires glancing down and the pushing of buttons. This type of an 10 interruption can typically be tolerated without significantly disrupting the surrounding activities. There is no such voice-based communication equivalent for inaudibly and time-effectively responding to a communication in a voice-based manner. For example, it is time consuming to answer a call, engage the other party, explain that you are unavailable, and (for example) find out from the mediated party if you can call back when your meeting is over. In a voice-based 15 format, this type of communication can be significant. Furthermore, call screening or other filtering systems offer little relief in this regard because they do not promote a communication with the mediated party.

One method for accomplishing data-based communication includes communicating information via data packets. General Packet Radio Service (also referred to as GPRS) is a 20 packet-based service that allows information to be sent and received, as data packets, across networks, such as digital cellular networks, that supports GPRS. For example, a Global System for Mobile Communications (also referred to as GSM) network is one example of a digital mobile telephone network that can be configured to support GPRS. GPRS facilitates transmission of data packets between mobile communications networks and the Internet. As a 25 result, GPRS is considered to be a sub-network of the Internet with GPRS capable mobile phones being viewed as an access device. Accordingly, access to the Internet is available to mobile users via GPRS.

Data packet network services, such as GPRS, bring together high-speed radio access and Internet Protocol (IP) based services into one, powerful environment. IP is a packet-based protocol associated with the Internet that allows active communication devices to be "on line" at all times and only pay for data that is actually sent or received. In this manner, a connection between an active communication device and the network is always present. As a result, data is sent and received more efficiently than commercially implemented switched-based protocol because a network connection does not first need to be established.

GPRS is designed for digital cellular networks (GSM, DCS, PCS, TDMA). For example, with respect to GSM networks, GPRS can be viewed as an overlay network onto second-generation GSM networks. It utilizes a packet radio principle and can be used for carrying subscriber packet data protocol information between GPRS enabled devices on GPRS compatible networks and other types of packet data networks such as the Internet. GPRS is standardized by the ETSI (European Telecommunications Standards Institute), and allows voice and data communication to share a common connection. That is, unlike current circuit-switched technology, data packets can arrive/be sent even while voice communication is active and vice versa. Accordingly a voice-based communication can be in progress while receiving and sending data and vise-versa.

Networks supporting GPRS provide an 'always-on' connection with a client device such as a smart phone. Information can be retrieved rapidly because the client device is 'always-on' in the network. Accordingly, the visual display of a GPRS enable device is sometimes referred to as an 'always-on' display.

GPRS network resources are used only when a subscriber is actually sending or receiving data. Rather than dedicating a radio channel to a GPRS subscriber for a fixed period of time, available GPRS resources can be concurrently shared between several subscribers. As GPRS is a radio resource, this efficient use of scarce radio, i.e. frequency, resources means that large numbers of GPRS subscribers can potentially share the same bandwidth and be served from a

single cell. The actual number of subscribers supported depends on the application being used and how much data is being transferred.

GPRS enables mobile Internet functionality by allowing compatibility between existing Internet and GPRS compatible networks. Any service that is used over the fixed Internet today, 5 such as File Transfer Protocol (FTP), chat, email, HTTP, and fax, are also available over GPRS compatible networks. Furthermore, because GPRS enables mobile device users to effectively and efficiently access the Internet, web browsing is a very important application for GPRS.

An embodiment of an apparatus 20 for enabling mediation activities to be facilitated by the mediation subscriber communication device 16 and the mediated party communication device 18 is depicted in FIG. 2. As illustrated, a mediation subscriber communication device 16, mediated party communication device 18, mediated party communication device 34 and service management system 23 are depicted as communicating via the apparatus 20. In practice, the apparatus 20 facilitates mediated communication for a plurality of mediation subscriber communication devices, mediated party communication devices, mediated party communication devices and service management systems. 10 15

The apparatus 20 includes the mediation system 10, a data packet network 22, a voice network 24, and a computer data network 25. The mediation system 10 is connected to the data packet network 22, to the voice network 24 and to the computer data network 25, thus enabling communication therebetween. The computer network 25 is connected to a mediation subscriber 20 computer system 34, to the mediation manager 26 and to a service management system 23 of a service provider, thus enabling communication therebetween.

The voice network 24 includes a computer telephone interface (CTI) server 24a and an interactive voice response (IVR) system 24b. The CTI server 24a is connected to the IVR system 24b. The IVR system enables interactive voice response from the mediated party to be 25 received by the mediation system and transformed into a computer-based communication format.

Commercially available IVR systems are commercially available from IBM Corporation and from Periphonics Corporation.

In many situations, it is desirable and advantageous for the mediation subscriber communication device 16 to communicate directly with the mediated party communication device 18. In such situations, the mediation subscriber communication device communicates with the mediated party communication device without intervention by the mediation system. To facilitate data-based communication between the mediation subscriber communication system 16 and the mediated party communication device 18, the mediation subscriber communication device 16 is connected to the mediated party communication device through the data packet network 22. To facilitate voice-based communication between the mediation subscriber communication system 16 and the mediated party communication device 18, the mediation subscriber communication device 16 is connected to the mediated party communication device through the voice network 24. Accordingly, both voice and data can be passed through the mediation system without intervention, or the communication can be re-routed so that the mediation system is not in the communication path.

The mediation system 10 includes a mediation manager 26 with a data packet client 28, a computer telephone interface (CTI) client 30, a computer network interface 31 and an information storage device 32 connected thereto. A Dell PowerVault (TM) series storage device is one example of the information storage device 32. The data packet network 22 includes a data packet server 22a that enables communication between the data packet network 22 and the data manager 26 via the data packet client 28. The voice network 24 includes a computer telephone interface (CTI) server 24a that enables communication between the data packet network 22 and the mediation manager 26 via the CTI client 30.

The mediation manager 26 includes a data processor 26a, such as a network server, a workstation or other suitable type of data processing device. The computer interface 31 is connected between the data processor 26a and the computer network 25 for enabling communication therebetween. A Dell PowerEdge™ series server is one example of a suitable

commercially available network server. A Dell Precision™ series workstation is one example of a suitable commercially available workstation. The information storage device 32 is connected to the data processor 26a for storing information in non-volatile memory and retrieving information therefrom.

5       A computer program product 27 includes a computer program that is processable by the data processor 26a of the mediation manager 26. The computer program enables facilitation of at least a portion of the operations performed by the mediation system 10 for accomplishing the methods disclosed herein. The computer program is accessible by the data processor 26a of the mediation manager 26 from an apparatus such as a diskette, a compact disk, a network storage 10 device or other suitable apparatus.

The service management system 23 includes a data processor 23a, computer network interface 23b and a voice network interface 23c. The computer network interface 23b is connected to the computer network 25 for enabling data-based communication between the service manager 23a and the mediation system 10 via the computer network 25. The voice network interface 23c is connected to the voice network 24 for enabling voice-based communication between the service manager 23a and the mediation system 10 via the voice network 24.

15       The mediation subscriber computer system 34 includes a data processor 34a and a computer network interface 34b. The computer interface 34b is connected between the data processor 34a of the mediation subscriber computer system 34 and the computer network 25 for 20 enabling communication therebetween.

A mobile telephone capable of transmitting and receiving data packets via the General Packet Radio Service (GPRS) is one example of the mediation subscriber communication device 16. GPRS enabled mobile telephones, also referred to as "Smart Phones", are offered by 25 manufacturers such as Ericsson Incorporated and Nokia Incorporated. Smart phones are mobile phones with built-in voice, data, and Web-browsing services. Smart phones integrate mobile

computing and mobile communications into a single terminal. Smart phones, importantly, can execute Java programs within the device. Java programs can be used to control presentation and interaction with the user, as well as send and receive data packets. The Ericsson models R380 and R520 telephones and the Nokia 9000 series telephone represent specific examples of GPRS enable mobile telephones.

Referring to Fig. 3, the mediation subscriber communication device 16, such as a smart phone, include a user interface. The user interface of the device 16 includes a data interface portion and a voice interface portion. In the embodiment of the mediation subscriber communication device 16 depicted in FIG. 3, the user interface includes a visual display 16a, a plurality of alphanumeric keys 16b, a plurality of control keys 16c and a scroll key 16d. The voice interface portion of the user interface includes a speaker 16e and a microphone 16f.

The data interface portion of the user interface permits information to be visually displayed and permits the mediation subscriber to interactively manipulate information associated with data-based communications between the device 16 and the mediation system 10. The visual display 16a permits information to be visually displayed. The plurality of alphanumeric keys 16b permit alphanumeric information to be inputted. The plurality of control keys 16c permit associated functionality to be selected. For example, functional operations, such as accept and cancel, displayed on the visual display 16a may be associated with respective control keys 16c. The scroll key 16d permits menu information such as availability specifiers AS to be highlighted and manipulated.

It should be understood that other types of devices also represent suitable examples of the mediation subscriber communication device 16. Personal digital assistants (PDAs) such as those offered by Palm Computing and Handspring are data-centric devices that are capable of providing mobile wireless access. These devices can utilize GPRS through a GPRS-capable mobile phone via a serial cable or directly if they have built-in GPRS capability. Similarly, suitably equipped mobile computers are also capable of communicating data packets over a GPRS compatible network.

The apparatus, systems and devices discussed and disclosed herein permit mediation of an inbound or outbound communication to be facilitated electronically, yet in a dynamic, personalized and time-sensitive manner. In one embodiment, the methods disclosed herein are not governed exclusively by user-defined rules and designations. In these embodiments, it is 5 advantageous for these methods to be facilitated in large degree by system-defined information. System defined information is information garnished by the mediation system in response to facilitating mediation operations. Furthermore, it is desirable to require the mediation subscriber to define and maintain only a minimal amount of designated information (also referred to herein as user-defined information).

10 One example of user-defined information is an availability status of the mediation subscriber. The availability status defines qualitative aspects of the mediation subscriber's availability and, in some cases, also defines quantitative aspects of the mediation subscriber's availability. As depicted in FIG. 3, an availability status menu ASM is displayable on a visual display 16a of the mediation subscriber communication device 16.

15 The availability status menu ASM includes a plurality of availability specifiers AS. For a first type of availability specifier AS1, a time indicating availability is specified in a time field TF. For example, the mediation subscriber may specify that he will be in a meeting until a designated time, such as 10:15AM. For a second type of availability specifier AS2, a duration quantitatively indicating availability is specified in a duration field DF. For example, the 20 mediation subscriber specifies availability in a designated amount of time, such as 10 minutes. For a third type of availability specifier AS3, the selected availability status itself defines a relative (qualitative) time designating the availability of the mediation subscriber. For example, the mediation subscriber may designate that he is available now. For a fourth type of availability specifier AS4, the fourth type of availability specifier AS4 that queries a priority of the 25 communication request by the mediated party. For example, the mediation subscriber may select an availability specifier that results in the urgency of the communication request being mediated by the mediation system.

Another technique for providing subscriber specified preferences and information includes the preparation of one or more policies. An embodiment of a policy 100, as viewed via visual display 34' of the mediation subscriber computer system 34, is depicted in Fig. 4. Information included in the policy 100 may be provided via the mediation subscriber communication device 16, via the mediation subscriber computer system 34, or both.

The policy 100 includes a tab 102 that may be used to specify a name for a particular group of individuals associated with the policy 100. At a group field 104, the mediation subscriber may specify one or more specific individuals that apply to the policy 100. Information such as the name and one or more telephone numbers associated with each individual is specified at the group field 104. At a greeting field 106, the mediation subscriber may designate and set-up a desired greeting. For example, the mediation subscriber may designate a standard greeting or a custom greeting. The standard greeting is a greeting that would be applied to any policy that does not specify a custom greeting. At a co-mediator field 108, the mediation subscriber may designate one or more co-mediators associated with the policy 100. Each designated co-mediator is thus authorized by the mediation subscriber to engage in mediation of a communication request received by the mediation subscriber.

Still referring to FIG. 4, the mediation subscriber may designate a default action to be performed by the mediation system in instances when a follow-up action for a particular communication is not provided by the mediation subscriber in response to being prompted for one by the mediation system. A first set of default actions D1 define actions that are taken in instances where a follow-up action by the mediation subscriber is not provided in response to the mediation system prompting the mediation subscriber for a follow-up action. For example, the mediation subscriber may designate a default action from the first set of default actions D1 for instructing the mediation system to forward applicable communications to the mediation subscriber's administrative assistant. A second set of default actions D2 defines a plurality of follow-up actions that designate an initial action associated with applicable communications. For example, the mediation subscriber may designate a default action from the second set of default actions D2 for instructing the mediation system to 'Schedule A Time To Talk' with the mediated

party (team member) if a particular criteria C1 is met, such as a communication being designated as urgent.

An embodiment of a method for facilitating a mediation session initiated by an inbound communication request is depicted in FIG. 5. The apparatus 20, FIG. 2, illustrates an example of 5 an apparatus capable of carrying out the method depicted in FIG. 5. At a block 200, an inbound communication request from the mediated party communication device 18 is received by the mediation system 10. Information may be communicated between the mediation subscriber communication device and the mediation system via data packets over a suitable network. An inbound telephone call illustrates one example of the inbound communication request.

50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84  
85  
86  
87  
88  
89  
90  
91  
92  
93  
94  
95  
96  
97  
98  
99  
100  
101  
102  
103  
104  
105  
106  
107  
108  
109  
110  
111  
112  
113  
114  
115  
116  
117  
118  
119  
120  
121  
122  
123  
124  
125  
126  
127  
128  
129  
130  
131  
132  
133  
134  
135  
136  
137  
138  
139  
140  
141  
142  
143  
144  
145  
146  
147  
148  
149  
150  
151  
152  
153  
154  
155  
156  
157  
158  
159  
160  
161  
162  
163  
164  
165  
166  
167  
168  
169  
170  
171  
172  
173  
174  
175  
176  
177  
178  
179  
180  
181  
182  
183  
184  
185  
186  
187  
188  
189  
190  
191  
192  
193  
194  
195  
196  
197  
198  
199  
200  
201  
202  
203  
204  
205  
206  
207  
208  
209  
210  
211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300  
301  
302  
303  
304  
305  
306  
307  
308  
309  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
399  
400  
401  
402  
403  
404  
405  
406  
407  
408  
409  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
499  
500  
501  
502  
503  
504  
505  
506  
507  
508  
509  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
599  
600  
601  
602  
603  
604  
605  
606  
607  
608  
609  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
698  
699  
699  
700  
701  
702  
703  
704  
705  
706  
707  
708  
709  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
789  
790  
791  
792  
793  
794  
795  
796  
797  
797  
798  
799  
799  
800  
801  
802  
803  
804  
805  
806  
807  
808  
809  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
889  
890  
891  
892  
893  
894  
895  
896  
897  
897  
898  
899  
899  
900  
901  
902  
903  
904  
905  
906  
907  
908  
909  
909  
910  
911  
912  
913  
914  
915  
916  
917  
918  
919  
919  
920  
921  
922  
923  
924  
925  
926  
927  
928  
929  
929  
930  
931  
932  
933  
934  
935  
936  
937  
938  
939  
939  
940  
941  
942  
943  
944  
945  
946  
947  
948  
949  
949  
950  
951  
952  
953  
954  
955  
956  
957  
958  
959  
959  
960  
961  
962  
963  
964  
965  
966  
967  
968  
969  
969  
970  
971  
972  
973  
974  
975  
976  
977  
978  
979  
979  
980  
981  
982  
983  
984  
985  
986  
987  
988  
988  
989  
989  
990  
991  
992  
993  
994  
995  
995  
996  
997  
997  
998  
999  
999  
1000  
1001  
1002  
1003  
1004  
1005  
1006  
1007  
1008  
1009  
1009  
1010  
1011  
1012  
1013  
1014  
1015  
1016  
1017  
1018  
1019  
1019  
1020  
1021  
1022  
1023  
1024  
1025  
1026  
1027  
1028  
1029  
1029  
1030  
1031  
1032  
1033  
1034  
1035  
1036  
1037  
1038  
1039  
1039  
1040  
1041  
1042  
1043  
1044  
1045  
1046  
1047  
1048  
1049  
1049  
1050  
1051  
1052  
1053  
1054  
1055  
1056  
1057  
1058  
1059  
1059  
1060  
1061  
1062  
1063  
1064  
1065  
1066  
1067  
1068  
1069  
1069  
1070  
1071  
1072  
1073  
1074  
1075  
1076  
1077  
1078  
1079  
1079  
1080  
1081  
1082  
1083  
1084  
1085  
1086  
1087  
1088  
1088  
1089  
1089  
1090  
1091  
1092  
1093  
1094  
1095  
1096  
1097  
1097  
1098  
1099  
1099  
1100  
1101  
1102  
1103  
1104  
1105  
1106  
1107  
1108  
1109  
1109  
1110  
1111  
1112  
1113  
1114  
1115  
1116  
1117  
1118  
1119  
1119  
1120  
1121  
1122  
1123  
1124  
1125  
1126  
1127  
1128  
1129  
1129  
1130  
1131  
1132  
1133  
1134  
1135  
1136  
1137  
1138  
1139  
1139  
1140  
1141  
1142  
1143  
1144  
1145  
1146  
1147  
1148  
1149  
1149  
1150  
1151  
1152  
1153  
1154  
1155  
1156  
1157  
1158  
1159  
1159  
1160  
1161  
1162  
1163  
1164  
1165  
1166  
1167  
1168  
1169  
1169  
1170  
1171  
1172  
1173  
1174  
1175  
1176  
1177  
1178  
1179  
1179  
1180  
1181  
1182  
1183  
1184  
1185  
1186  
1187  
1188  
1188  
1189  
1189  
1190  
1191  
1192  
1193  
1194  
1195  
1196  
1197  
1197  
1198  
1199  
1199  
1200  
1201  
1202  
1203  
1204  
1205  
1206  
1207  
1208  
1209  
1209  
1210  
1211  
1212  
1213  
1214  
1215  
1216  
1217  
1218  
1219  
1219  
1220  
1221  
1222  
1223  
1224  
1225  
1226  
1227  
1228  
1229  
1229  
1230  
1231  
1232  
1233  
1234  
1235  
1236  
1237  
1238  
1239  
1239  
1240  
1241  
1242  
1243  
1244  
1245  
1246  
1247  
1248  
1249  
1249  
1250  
1251  
1252  
1253  
1254  
1255  
1256  
1257  
1258  
1259  
1259  
1260  
1261  
1262  
1263  
1264  
1265  
1266  
1267  
1268  
1269  
1269  
1270  
1271  
1272  
1273  
1274  
1275  
1276  
1277  
1278  
1279  
1279  
1280  
1281  
1282  
1283  
1284  
1285  
1286  
1287  
1288  
1288  
1289  
1289  
1290  
1291  
1292  
1293  
1294  
1295  
1296  
1297  
1297  
1298  
1299  
1299  
1300  
1301  
1302  
1303  
1304  
1305  
1306  
1307  
1308  
1309  
1309  
1310  
1311  
1312  
1313  
1314  
1315  
1316  
1317  
1318  
1319  
1319  
1320  
1321  
1322  
1323  
1324  
1325  
1326  
1327  
1328  
1329  
1329  
1330  
1331  
1332  
1333  
1334  
1335  
1336  
1337  
1338  
1339  
1339  
1340  
1341  
1342  
1343  
1344  
1345  
1346  
1347  
1348  
1349  
1349  
1350  
1351  
1352  
1353  
1354  
1355  
1356  
1357  
1358  
1359  
1359  
1360  
1361  
1362  
1363  
1364  
1365  
1366  
1367  
1368  
1369  
1369  
1370  
1371  
1372  
1373  
1374  
1375  
1376  
1377  
1378  
1379  
1379  
1380  
1381  
1382  
1383  
1384  
1385  
1386  
1387  
1388  
1388  
1389  
1389  
1390  
1391  
1392  
1393  
1394  
1395  
1396  
1397  
1397  
1398  
1399  
1399  
1400  
1401  
1402  
1403  
1404  
1405  
1406  
1407  
1408  
1409  
1409  
1410  
1411  
1412  
1413  
1414  
1415  
1416  
1417  
1418  
1419  
1419  
1420  
1421  
1422  
1423  
1424  
1425  
1426  
1427  
1428  
1429  
1429  
1430  
1431  
1432  
1433  
1434  
1435  
1436  
1437  
1438  
1439  
1439  
1440  
1441  
1442  
1443  
1444  
1445  
1446  
1447  
1448  
1449  
1449  
1450  
1451  
1452  
1453  
1454  
1455  
1456  
1457  
1458  
1459  
1459  
1460  
1461  
1462  
1463  
1464  
1465  
1466  
1467  
1468  
1469  
1469  
1470  
1471  
1472  
1473  
1474  
1475  
1476  
1477  
1478  
1479  
1479  
1480  
1481  
1482  
1483  
1484  
1485  
1486  
1487  
1488  
1488  
1489  
1489  
1490  
1491  
1492  
1493  
1494  
1495  
1496  
1497  
1497  
1498  
1499  
1499  
1500  
1501  
1502  
1503  
1504  
1505  
1506  
1507  
1508  
1509  
1509  
1510  
1511  
1512  
1513  
1514  
1515  
1516  
1517  
1518  
1519  
1519  
1520  
1521  
1522  
1523  
1524  
1525  
1526  
1527  
1528  
1529  
1529  
1530  
1531  
1532  
1533  
1534  
1535  
1536  
1537  
1538  
1539  
1539  
1540  
1541  
1542  
1543  
1544  
1545  
1546  
1547  
1548  
1549  
1549  
1550  
1551  
1552  
1553  
1554  
1555  
1556  
1557  
1558  
1559  
1559  
1560  
1561  
1562  
1563  
1564  
1565  
1566  
1567  
1568  
1569  
1569  
1570  
1571  
1572  
1573  
1574  
1575  
1576  
1577  
1578  
1579  
1579  
1580  
1581  
1582  
1583  
1584  
1585  
1586  
1587  
1588  
1588  
1589  
1589  
1590  
1591  
1592  
1593  
1594  
1595  
1596  
1597  
1597  
1598  
1599  
1599  
1600  
1601  
1602  
1603  
1604  
1605  
1606  
1607  
1608  
1609  
1609  
1610  
1611  
1612  
1613  
1614  
1615  
1616  
1617  
1618  
1619  
1619  
1620  
1621  
1622  
1623  
1624  
1625  
1626  
1627  
1628  
1629  
1629  
1630  
1631  
1632  
1633  
1634  
1635  
1636  
1637  
1638  
1639  
1639  
1640  
1641  
1642  
1643  
1644  
1645  
1646  
1647  
1648  
1649  
1649  
1650  
1651  
1652  
1653  
1654  
1655  
1656  
1657  
1658  
1659  
1659  
1660  
1661  
1662  
1663  
1664  
1665  
1666  
1667  
1668  
1669  
1669  
1670  
1671  
1672  
1673  
1674  
1675  
1676  
1677  
1678  
1679  
1679  
1680  
1681  
1682  
1683  
1684  
1685  
1686  
1687  
1688  
1688  
1689  
1689  
1690  
1691  
1692  
1693  
1694  
1695  
1696  
1697  
1697  
1698  
1699  
1699  
1700  
1701  
1702  
1703  
1704  
1705  
1706  
1707  
1708  
1709  
1709  
1710  
1711  
1712  
1713  
1714  
1715  
1716  
1717  
1718  
1719  
1719  
1720  
1721  
1722  
1723  
1724  
1725  
1726  
1727  
1728  
1729  
1729  
1730  
1731  
1732  
1733  
1734  
1735  
1736  
1737  
1738  
1739  
1739  
1740  
1741  
1742  
1743  
1744  
1745  
1746  
1747  
1748  
1749  
1749  
1750  
1751  
1752  
1753  
1754  
1755  
1756  
1757  
1758  
1759  
1759  
1760  
1761  
1762  
1763  
1764  
1765  
1766  
1767  
1768  
1769  
1769  
1770  
1771  
1772  
1773  
1774  
1775  
1776  
1777  
1778  
1779  
1779  
1780  
1781  
1782  
1783  
1784  
1785  
1786  
1787  
1788  
1788  
1789  
1789  
1790  
1791  
1792  
1793  
1794  
1795  
1796  
1797  
1797  
1798  
1799  
1799  
1800  
1801  
1802  
1803  
1804  
1805  
1806  
1807  
1808  
1809  
1809  
1810  
1811  
1812  
1813  
1814  
1815  
1816  
1817  
1818  
1819  
1819  
1820  
1821  
1822  
1823  
1824  
1825  
1826  
1827  
1828  
1829  
1829  
1830  
1831  
1832  
1833  
1834  
1835  
1836  
1837  
1838  
1839  
1839  
1840  
1841  
1842  
1843  
1844  
1845  
1846  
1847  
1848  
1849  
1849  
1850  
1851  
1852  
1853  
1854  
1855  
1856  
1857  
1858  
1859  
1859  
1860  
1861  
1862  
1863  
1864  
1865  
1866  
1867  
1868  
1869  
1869  
1870  
1871  
1872  
1873  
1874  
1875  
1876  
1877  
1878  
1879  
1879  
1880  
1881  
1882  
1883  
1884  
1885  
1886  
1887  
1888  
1888  
1889  
1889  
1890  
1891  
1892  
1893  
1894  
1895  
189

at the block 213, the plurality of follow-through actions is communicated to the mediation subscriber communication device at a block 212.

It should be noted that a plurality of operations, such as communicating the contextual communication summary to the mediation subscriber and preparing the plurality of follow-through actions, may be performed concurrently. For example, mediation operations between the mediation system and the mediation subscriber may be performed while telephone is ringing. In this manner, time may be used efficiently, thus reducing the time which the mediated party is awaiting either a personal or mediated response. It should also be noted that the contextual communication summary and the follow-through actions may be communicated essentially simultaneously such that the mediation subscriber nearly immediately has all the information necessary to address the inbound communication request.

In response to the mediation subscriber selecting one of the follow-through actions, a selected follow-through action is received by the mediation system from the mediation subscriber communication device at a block 214. In response to receiving the selected follow-through action, a mediation follow-through operation is facilitated at a block 216. In response to facilitating the mediation follow-through operation, a mediation subscriber profile is updated at a block 218. As discussed below, updating the mediation subscriber profile includes updating at least one data set, such as a mediation activity data set, in a mediation subscriber profile.

In response to determining at the box 202 that a policy, such as the policy depicted in FIG. 4, does apply to the inbound communication request and determining at a block 222 that that the policy requires always ringing the mediation subscriber, the method continues at the block 210. In response to determining at the block 222 that policy-driven mediated follow-through is required, the method continues at the block 216. In the case of policy-driven mediated follow-through, facilitating mediated follow-through at the block 216 is performed, at least in part, according to the follow-through action designated in the policy.

The mediated follow-through operation performed at the block 216 depicts an example of a virtual mediation operation. By virtual mediation operation, it is meant that the mediation operation is performed by the mediation system on behalf of the mediation subscriber. For example, the mediation can be performed in an automated manner by data processing device as 5 described herein. Virtual mediation adds a high degree of personalization to acting on behalf of the mediation subscriber. To this end, the virtual mediation operation is performed based on contextual and behavioral information associated with the mediation subscriber.

It should be understood that rather than choose to accept the inbound communication or select one of the follow-through actions, the mediation subscriber may choose to do nothing 10 (neither accept nor defer the inbound communication). By the mediation subscriber choosing to not accept the call nor to select one of the follow-through actions (block 213), a system-imposed follow-through action, such as the default action discussed above in reference to Fig. 4, is identified by the mediation system at a block 220. Accordingly, when the mediation subscriber chooses to neither accept nor defer the inbound communication, the mediation follow-through 15 operation is facilitated according to the system imposed follow-through action.

It is also contemplated that a system-defined action based on contextual information, historical information, and behavioral information may be imposed rather than default actions associated with user-defined information. For example, the mediation subscriber is in a meeting and has received three calls from unknown parties. In all three cases, the mediation subscriber 20 has selected a follow-through action requesting that the mediated (unknown) party schedule a time to talk. Accordingly, for all subsequent unknown callers while the mediation subscriber is in the meeting, the mediation system automatically initiates a mediated follow-through operation for scheduling a time to talk. A pre-defined number of occurrences may need to occur first, such as three attempts from unknown callers, prior to mediation system imposing such as system- 25 defined follow-through action. In this example, the follow-through action imposed by the mediation system is a system-defined behavior-based follow-through action.

**Example 1 - Inbound Call Mediation**

David is in an important meeting in which it would be seen as disruptive to verbally respond to incoming communications received on his wireless telephone 16'. As depicted in Fig. 6, at a first interaction event E1, David visually reviews a caller summary CS1. The caller summary includes contextual information associated with prior incoming calls that he has not accepted. At some prior point in time, David has communicated his availability status to the mediation system. Accordingly the mediation system knows that David is planning on being in this meeting until 14:30 hours.

After reviewing the caller summary CS1, a second interaction event E2, David receives an incoming call from Richard S. In response to receiving the incoming call, a communication summary CS2 is displayed on the visual display 16a of his wireless telephone 16'. By reviewing the communication summary CS2, David is able to quickly and non-disruptively ascertain that the incoming call is from Richard S and that Richard S has made repeated attempts to return a call from David. Because David is still in the meeting, he chooses to defer the call for virtual mediation by selecting the control key 16c associated with a defer action DA.

In response to choosing the defer action DA, a follow-through action menu FAM is displayed on the visual display 16' at a third interaction event E3. The follow-through action menu includes a plurality of follow-through actions FA. David uses the scroll key 16d to highlight the follow-through action 'Will call when free' and confirms the selection by depressing the control key 16c associated with an accept action AA.

Because David responded to the inbound communication using a data-based communication format, he was able to review the available contextual

5

information and implement a desired follow-through action without disrupting the meeting. Furthermore, it only took David a short period or time (e.g. about 10 seconds) to review the available contextual information and implement the desired follow-through action. While David is still participating in the meeting, the mediation system has engaged in a virtual mediation operation for notifying Richard (the mediated party) that David will call him after the meeting.

10

As a result of David having provided his availability status to the mediation system, the mediation system uses the availability status in performing the mediation operation. The mediation system lets Richard know that David is in a meeting until 14:30 hours and will return his call after this time. In this manner, a more personalized and efficient communication is facilitated between the mediation system and Richard.

15

The 'schedule a time' follow-through action depicted in FIG. 6 is one embodiment of a follow-through action for mediating a coordinated arrangement for person-to-person communication to be facilitated. In such an embodiment, the mediation system mediates an agreed upon time and/or day for the mediation subscriber and the mediated party to communicate.

20

Context and contextual, as referred to herein, relate to experiences, actions, and information associated with a communication. For example, the contextual communication summary CS2, FIG. 6, includes a plurality of context components. A first context component CC1 is associated with a name of the mediated party. A second context component CC2 is associated with a phone number of the mediated party. A third context component CC3 is associated with the reason for the communication. A fourth context component CC4 is associated with prior attempts by the mediated party to contact the mediation subscriber.

25

Together, these context components CC1-CC4 provide the mediation subscriber with a brief yet insightful summary of the inbound communication. In other embodiments, the

contextual communication summary includes only one context component, such as the phone number of the mediated party. The actions of the mediation subscriber and the mediated party result in an abundance of contextual information associated with the inbound communication being generated. Furthermore, completed and on-going mediation operations generate information associated with such mediation operations. Such information is useful in determining system-defined information, such as system-defined default actions mentioned above.

It will be appreciated that, in addition to the contexts previously discussed, there are many other types of contextual data that may be used to control communication between parties.

10 Table 1 lists specific context types and embodiments. Accordingly, mediation steps can be based upon the various contexts described herein, including those of Table 1.

Presence	Presence of one or more parties to a mediation communication. The Presence of a party defines their availability for communication via various channels (eg phone or Instant Messaging (chat). Presence may be set by the party (ie they choose NOT to be available, or by physical limitations (out of range)).  Presence identifies what channels a user can be reached via at any given time
Location	The location of one or more parties to a mediated communication. The location will generally be the location of the mediation device, and in one embodiment, can be determined automatically based data available to the wireless communications system, or other positioning system such as a Global Positioning System. In another implementation, a party can manually specify their location or an alternate location.
Time	Time that the party is in. For the subscriber, this could be with respect to Mediation policies ("deny all business calls after 7pm" or "Deny all calls when I am busy") and also for managing or warning about scheduled meetings ("Incoming call from Sally, but you have a meeting in 5 minutes")
Identity	Identity and number/address that Mediated party is using. For the subscriber, this could be with respect to Mediation policies ("deny all calls unless it's Sally")
Communication History	The history of communication interactions and follow through actions between caller and subscriber may influence the options (or priority) of options to be taken
Membership	The membership of a caller, as organized in the subscribers address book may influence which policies of mediation apply. E.g. "Deny all business calls after 7pm" means if caller has been assigned as a "business" caller then deny their call after 7pm.

Table 1

It will be further appreciated that, in addition to those mediation actions and follow-through mediation actions described, there are many other types of actions that may be used to

control communication between parties. Table 2 indicates specific action types and embodiments.

Forward Call	A party to a mediated communication can request the call be forwarded to a different party, such as an assistant.
Leave Message	A party to a mediated communication can request that caller be asked to leave a message.
Request call back or message (VM/SMS/Email)	Subscriber may, via the mediation service, request the caller calls later (e.g. when both are free) or send a simple message via certain channels.
Promise to call back	Subscriber may, via the mediation service, tell the caller that they will return the call in due course
Schedule a meeting (conf call or other)	Subscriber may, via the mediation service, request that the caller arrange a time (when both are free) to talk
Use Internet Chat (Instant Messaging)	Subscriber may, via the mediation service, suggest transferring the form of communication to on-line chat (when they are in a conference for example)
Deny call, side effecting policy change	Deny the call to the user, but at the same time defining a policy or rule that will affect subsequent calls from that caller (e.g. "No more calls from him today")
Deny call and send message	Deny the call to the user (e.g. in a meeting), but opt to send them a text message.
Deny call and send "canned" message	Deny the call to the user but select a "canned/pre-recorded" message to be displayed or "read" to the call
Ask a question	Defer taking the call, but via the mediation service ask a question to the caller. E.g. "Is it important?".

Table 2

An embodiment of the mediation subscriber profile 35 is illustrated in FIG. 7. The 5 mediation subscriber profile 35 is stored on the data storage device 32 of the mediation system

10. The mediation subscriber profile 35 includes one or more data sets. A communication history data set 35a includes communication history information, such as the name and telephone number of the party associated with the communication. An availability history data set 35b includes availability history information of the mediation subscriber. An action history data set 5 35c includes follow-through action history information. A mediation activity data set 35d includes information relating to completed or in-progress mediated activities. A policies data set 35e includes the policies discussed above. A service provider data set 35f includes information such as preferences (i.e. type of room, type of food, etc) relating to mediated service that can be requested by the mediation subscriber.

10        Each one of the profile data sets 35a-35f can be associated with at least one other profile data set such that related information can be associated. For example, in one embodiment, it is desirable and advantageous to relate a particular communication from a mediated party with a corresponding follow-through action and availability. Relating such information supports determining context, history and mediation status associated with a particular communication. It 15 should also be understood that the data sets might be each maintained in separate databases or in a common database along the system depicted in Fig. 2. In addition, the data sets can have information specific to either the mediation subscriber or the mediated party being mediated, i.e. the caller. For example, the action history data set 35c can have a history of actions taken by either the mediated party or the mediation subscriber.

20        It is one aspect of the apparatus, methods and systems disclosed herein that the information archived in the mediation subscriber profile 35 may be used to gain insight into behaviors and preferences of the mediation subscriber with respect to handling inbound and outbound communications. Determining such behaviors and preferences is desirable and advantageous. In this manner, mediation operations may be carried-out dynamically and time- 25 efficiently.

Referring to FIG. 8, an embodiment of steps for performing the operation of updating the mediation subscriber profile 35 at the block 218 in FIG. 5 is depicted. The steps for performing

the operation of updating the mediation subscriber profile 35 include archiving inbound communication information (block 220a), archiving the availability status of the mediation subscriber at the time of receiving the inbound communication (block 220b), and archiving any corresponding follow-up action (block 220c). Examples of the inbound communication 5 information includes a time of receipt of the inbound communication, a name of the mediated party, a telephone number associated with the inbound communication. Archiving is defined herein to include forming relationships between information as discussed above in reference to FIG. 7.

FIG. 9 depicts an embodiment of a method for accomplishing the operation of 10 determining applicable context and behavior by the mediated party, as depicted at the block 202 in FIG. 5. One example of determining the context associated with the inbound communication includes determining a present availability of the mediation subscriber (block 202a), analyzing present information associated with the inbound communication (block 202b), and analyzing historical information, such as from the mediation subscriber profile, that is associated with the 15 inbound communication (block 202c). One example of determining a related behavior includes analyzing mediation subscriber policies (block 202d), analyzing follow-through actions associated with historical inbound communication information (block 202e) and analyzing availability history of the mediation subscriber (block 202c). All of the information analyzed at the block 202 is archived in the mediation subscriber profile discussed above.

FIG. 10 depicts an embodiment of a method for accomplishing the operation of 20 facilitating a mediated follow-through operation, as depicted at the block 216 in FIG. 5. At a block 216a, a follow-through action communication is prepared. In one embodiment, the follow-through action communication is voice based. The follow-through action communication is communicated to the mediated party communication device at the block 216b. In response to the 25 selected follow-through action being accepted by the mediated party at a block 216', completion of the selected follow-through action is facilitated by the mediation system at a block 216c. In response to the selected follow-through action being unacceptable or non-actionable by the

mediated party, at a block 216", the mediated party may choose to terminate the communication, such as by hanging-up, or to suggest a revised follow-through action.

In response to suggesting an alternate follow-through action at the block 216", an availability request is communicated to the mediated party at a block 216d. Prompting the 5 mediated party to reply with how long they will be available, when they will be available, or the like are examples of communicating the availability request to the mediated party communication device. At a block 216e, a present availability is received from the mediated party. The present availability may be received from the mediated party in a voice-based format or as data entered using a device, such as a telephone keypad. At a block 216f, a plurality of 10 alternate follow-through actions is prepared. In other embodiments, only one alternate follow-through action is prepared. Preparing the alternate follow-through actions includes assessing information such as the present availability of the mediated party, the present availability of the mediation subscriber, communication history, policies, etc.

It is contemplated that these alternate follow-through actions may include all or some of 15 the non-selected follow-through actions previously sent to the mediation subscriber at the block 212 in FIG. 5. Additionally, it is contemplated that all or some of the alternate follow-through actions may be availability-defined follow-through actions. By availability-defined follow-through actions, it is meant that the availability of the mediation subscriber and/or the availability 20 of the mediated party define a specific follow-through action. A call-back time based on joint availability of the mediation subscriber and the mediated party illustrates an example of the availability-defined follow-through actions.

At a block 216g, the plurality of alternate follow-through actions is communicated to the mediation subscriber communication device and the method continues at the block 216'. In response to the mediated party accepting one of the alternate follow-through actions at the block 25 216', the method continued at the block 216c. In response to the mediated party not accepting one of the alternate follow-through actions at the block 216', the method continues at the block 216".

### Example 2 - Performing Mediated Follow-Through Operation

In response to David selecting the 'Will call when free' follow-through action (see Example 1), the mediation system engages in the following voice based communication with the Richard, via the IVR system. "Richard, I am unavailable to talk with you right now, but will call you as soon as I am out of my meeting. I expect to be out of my meeting at 14:30 hours. If you will be available at around this time, please press 1. If you will not be available at about this time, please press 2". The communication with the mediated party may be in David's actual voice, a synthesized voice or other type of voice format.

In the instance in which Richard S. is available at this time, he responds accordingly by pressing 1. In response to Richard S. responding that he is available at this time, the mediation system communicates the following confirmation message to Richard S and then terminated the call. "Richard, I'll call you shortly after 14:30 hours. I look forward to talking with you then. Good-bye."

In the instance in which Richard is not available at this time, he responds accordingly by depressing 2. The mediation system then engages in the following voice-based communication with the Richard, via the IVR system, in an attempt to proceed according to an alternate and mutually acceptable follow-through action. "Richard, I would like to connect with you. After the tone, please key in a time that you are available to talk so that I can attempt to accommodate your schedule." After the tone, Richard uses the telephone keypad to enter a time, such as 15:45 hours. In some instances, it may be desirable to use voice recognition for receiving contextual information and responses from Richard.

In response to receiving the time specified by Richard, the mediation system communicates a data-based communication to David. The data-based communication is a single follow-through action prompting David with "Are you available to talk with

Richard at this time?" In the instance in which David is available to talk with Richard at the time specified by Richard, he confirms that he is available by depressing the control key corresponding to the accept action. In response to David confirming that he is available at the time specified by Richard, the mediation system communicates the following voice-based communication to Richard and terminates the call. "Richard, I am available to talk with you at this time. I will call you at around 15:45 hours. Thanks and I'll talk to you soon. Good-bye."

In the instance in which David is not available to talk with Richard at the time specified by Richard, he indicates that he is not available by depressing the control key corresponding to a decline action. In response to David indicating that he is not available at the time specified by Richard, the mediation system communicates the following voice-based communication to Richard and terminates the call. "Richard, I am not available to talk with you at this time. I'll follow-up with you later to try and find a convenient time to talk. Thanks for calling. Good-bye." In some instances, the mediation system may allow Richard to be transferred to David's assistant, such that mediation can be continued via David's assistant.

Another type of mediation session is one initiated by an outbound communication request. An embodiment of a method for facilitating a mediation session initiated by an outbound communication request is depicted in FIG. 11. The apparatus 20, FIG. 2, illustrates an example of an apparatus capable of carrying out the method depicted in FIG. 11. At a block 300, an outbound communication request is received by the mediation system from the mediation subscriber communication device, via one or more data packets or via a voice-based communication. The outbound communication request includes contact information such as a name, a telephone number, etc. for identifying an/or contacting the mediated party. In response to receiving the outbound communication request, a plurality of follow-through actions is prepared at a block 302. In other embodiments, depending on the outbound request, only one follow-through action or no follow-through action is prepared. Preparing the follow-through actions includes assessing related contextual information such as the present availability of the

mediation subscriber, mediation behavior and preferences of the mediation subscriber, information in policies of the mediation subscriber, etc.

At a block 304, the plurality of follow-through actions is communicated to the mediation subscriber from the mediations system. At a block 306, a selected follow-through action is 5 received by the mediation system from the mediation subscriber. In response to receiving the selected follow-through action, the mediated party communication device is contacted at the block 308. It should be understood that the mediation system contacts the mediated party communication device. Accordingly, the mediation system engages in communication with the mediated party to determine if the mediated party is available to engage in communication with 10 the mediation subscriber.

In response to the availability of the mediated party and the mediation subscriber permitting immediate communication (block 309'), the mediation system facilitates connection of the mediation subscriber communication device with that of the mediated party communication device at a block 310. In response to the availability of mediated party or the 15 mediation subscriber not permitting communication immediately therebetween (block 309'), the mediation continues to a block 309".

At the block 309", in response to the mediated party not selecting a follow-through option, the mediation system terminates its communication with the mediated party at a block 312. In response to the mediated party selecting a follow-through option at the block 309" the 20 mediation system facilitates, block 314, a mediated follow-through operation with the mediated party according to the follow-through option selected at the block 309". Scheduling time to talk, call forwarding, entering voice mail and the like are examples of follow-through options that may be selected at the block 309". At a block 316, the mediation activity data set 35d, FIG. 7, is updated with information associated with the communication appointment.

5

At a fourth interaction event E4, FIG. 12, David recognizes that his meeting is about to end. In reviewing the caller summary CS1, David decides that he would like for the mediation system to facilitate a return call to Sally E. To initiate such an operation, David depresses the control key 16c associated with an options action OA.

10

In response to depressing the control key 16c associated with the options action, an options menu OM is displayed on the visual display 16a at a fifth interaction event E5. The options menu OM includes a plurality of option selections OS. Examples of option selections OS include make a call, return a call, make a reservation, change my availability, change my policies and change my service preferences.

15

In response to choosing the 'return a call' option selection, an attempt is made at contacting Sally via her communication device. In the event that Sally answers, the mediation system connects David with Sally. In the event that Sally is not available, a plurality of call resolutions CR is displayed on the visual display at a sixth interaction event E6. The call resolutions CR provide various options when the caller is not available. Examples of call resolutions CR include schedule a call, continue to try, and quit call attempt. David uses the scroll key 16d to select the 'Continue to try' call resolution and confirms this selection by depressing the control key 16c associated with the accept action AA. The mediation continues to contact Sally.

20

It is desirable and advantageous for a mediated follow-through operation or pending mediated commitment to be modified according to an updated context component. For example, in the case where the availability status of the mediation subscriber changes, it is desirable and advantages for in-progress mediation operations and pending mediated commitments to be dynamically adjusted as necessary. The apparatus, methods and systems disclosed herein are capable of supporting such dynamic adjustment.

The 'schedule a call' call resolution depicted in FIG. 12 is one embodiment of a call resolution for mediating a coordinated arrangement for person-to-person communication to be facilitated. In such an embodiment, the mediation system mediates an agreed upon time and/or day for the mediation subscriber and the mediated party to communicate.

5 FIG. 13 depicts an embodiment of a method for facilitating a mediation session to alter a pending mediated commitment in response to one or more context components being altered. The apparatus 20, FIG. 2, illustrates an example of an apparatus capable of carrying out the method depicted in FIG. 13. Information may be communicated between the mediation subscriber communication device and the mediation system via data packets over a suitable  
10 network.

At a block 400, an altered context component is received by the mediation system. The altered context component may be received from the mediation subscriber or the mediated party. At a block 402 an affected mediated commitment is identified. A revised availability status illustrates an example of the altered context component capable of affecting a mediated commitment. A revised follow-through action is determined and a follow-through communication is prepared at a block 404 and at a block 406, respectively. At a block 408, an attempt is made at contacting the mediated party via the mediated party communication device.  
15

It should be understood that one or more context components and/or mediated commitments could be affected simultaneously. Therefore, at the block 400, more than one  
20 altered context component may be received. Also, the particular revised follow-through actions included in the follow-through action summary may vary depending on the specific context components and/or mediated commitments affected.

In response to the mediated party not being contacted, a postponement message is communicated to a mediated party messaging service at a block 410, if available. Voice mail  
25 and an answering machine illustrate suitable examples of the mediated party messaging service.

At a block 412 the mediation activity data set 35d, FIG. 7, is updated to reflect that the mediated commitment has been postponed.

In response to the mediated party being contacted, the revised follow-through communication is communicated to the mediated party communication device at a block 414. In 5 response to the revised follow-through action being unacceptable to the mediated party, the method would proceed from the block 414 to the block 410, thus resulting in the mediated commitment being postponed. The method then proceeds to the block 412 where the mediation activity data set 35d, FIG. 7, is updated to reflect that the mediated commitment has been changed. In response to the revised follow-through action being acceptable to the mediated 10 party, at a block 416, the mediated follow-through operation is performed according to the altered context component is facilitated.

In response to the mediated follow-through operation successfully producing an altered mediated commitment, the method proceeds to the block 412 where the mediation activity data set 35d, FIG. 7, is updated to reflect that the mediated commitment has been changed. In 15 response to the mediated follow-through operation being unsuccessful at producing an altered mediated commitment, a postponement message is communicated to a mediated party at a block 410. The method then proceeds to the block 412. The mediated party being unable to commit to a mutually acceptable time to talk illustrates an example of the mediated follow-through operation being unsuccessful.

20 Example 4 - Mediated Commitment Dynamic Updating

At a seventh interaction event E7, FIG. 14, David is still in his meeting, reviewing a pending commitment summary POS displayed on the visual display 16a of his wireless telephone, when he notices that his meeting has run longer than expected. The pending commitment summary PCS indicates that David 25 has a number of pending mediated commitments that are based on his meeting being over by about 14:30 hours. David also notices that the meeting has run longer than the time specified according to his availability status, FIG. 3.

5

Accordingly, David selects the control key associated with the options action OA such that the options menu OM is displayed at an eighth interaction event E8. David then uses the scroll key 186 to highlight the 'Change my availability' options selection and confirms the selection by depressing the control key 16c associated with the accept action AA.

10

In response to selecting the choosing the 'Change my availability' options selection OS, the availability status menu ASM is displayed on the visual display at a ninth interaction event E9. David uses the scroll key 16d to select the 'In meeting until...' availability specifier, enters a new time for when he will be out of the meeting, and confirms the new availability status by depressing the control key 16c associated with the accept action AA.

15

In response to altering his availability status, the mediation system identifies the pending mediated commitments associated with the availability status. The mediation system then acts on behalf of David to contact the appropriate mediated parties to revise the mediated commitments according to the altered availability status. As revised mediated commitments are established, David is able to review them via the pending commitment summary PCS.

FIG. 15 depicts an embodiment of a method for performing a mediation session to set-up 20 a mediated service commitment. The apparatus 20, FIG. 2, illustrates an example of an apparatus capable of carrying out the method depicted in FIG. 15. Information may be communicated between the mediation subscriber communication device and the mediation system via data packets over a suitable network. At a block 500, a service mediation request is received by the mediation system 10 from the mediation subscriber communication device 16. 25 In response to receiving the service mediation request, a context is determined and a plurality of service actions is prepared at a block 501 and a block 502, respectively. In other embodiments,

one or no service actions are prepared. At a block 504, the plurality of service actions is communicated to the mediation subscriber communication device 16.

In response to receiving, at a block 506, a selected one of the service actions from the mediation subscriber communication device 16, a mediated follow-through operation is 5 facilitated with the service provider at a block 508. At a block 509, confirmation information, such as a confirmation code, associated with the service reservation is received from the service provider reservation system.

At a block 510, in response to completing the mediated follow-through operation, the 10 mediated activity data set, FIG. 7, is updated. Updating the mediated activity data set includes adding information associated with the mediated service request, such as a confirmation number and a telephone number of the service provider, to the data set.

FIG. 16 depicts an embodiment of a method for accomplishing the operation of facilitating the mediated follow-through operation, as depicted at the block 508 in FIG. 15. At a 15 block 508a, a plurality of service providers capable of providing the requested service is identified. In other embodiments, only one service provider is identified. At a block 508b, the identified service providers are communicated to the mediation subscriber communication device 16. After communicating the plurality of service providers to the mediation subscriber communication device, confirmation of a selected service provider is received, at a block 508c, from the mediation subscriber communication device.

20 At a block 508d, a network connection is established between the service provider reservation system and the mediation system through the computer network. At a block 508e, the mediated follow-through operation is performed, thus establishing a mediated service commitment. The mediated service commitment illustrates an example of a mediated commitment, as discussed above. It is contemplated that communication between the mediation 25 system and the service management system may be facilitated via the computer network and the voice network.

Accordingly, data-based communication and voice-based communication may be used for facilitating the mediated service operation at the block 508e. For example, the mediation system may complete a first portion of the mediated follow-through operation via data-based communication through the computer network and a second portion of the mediated follow-through operation via voice-based communication through the voice network. A combined use of data-based communication and voice-based communication is defined herein to be a mixed-mode communication.

#### Example 5 - Service Mediation

David decides to make a reservation at his favorite restaurant to be sure he gets seated for dinner without too long of a wait. He was expecting to get there before the dinner crowd. However, because his meeting ran over, he thinks he may now have a hard time getting a seat.

Accordingly, at a tenth interaction event E10, FIG. 17, David brings up the options menu OM on the visual display 16a of his wireless telephone 16'. David uses the scroll key 16d to choose the 'Make a reservation' option selection and confirms his selection by depressing the control key 16c associated with the accept action AA. In response to choosing the 'Make a reservation' option selection, a service menu is on the visual display 16a at an eleventh interaction event E11. The service menu SM includes a plurality of service selections. Examples of service selections SS include arrange a taxi, arrange a hotel reservation, arrange a restaurant reservation and book a flight.

David uses the scroll key 16d to select the 'Arrange a restaurant reservation' service selection and confirms the selection by depressing the control key 16c associated with the accept action AA. In response to choosing the 'Arrange a restaurant reservation' service selection, an arrangement option menu AOM is displayed on the visual display at a twelfth interaction event E12.

The arrangement option menu AOM includes a plurality of arrangement options AO.

Each service selection SS has one or more corresponding context-specific arrangement options. Accordingly, the arrangement options AO displayed in response to choosing the 'arrange a restaurant reservation' service action are specific to arranging the taxi and are based on the present availability of the mediation subscriber. Because the mediation system knows that the mediation subscriber is in a meeting, the context derived from being in a meeting until a specified time is used to add a contextual aspect to some of the arrangement options AO. In this example, in which David is in a meeting until 15:15 hours, context-specific service actions include arranging a taxi for immediately after the meeting, arrange a taxi for X minutes after the meeting arranging a restaurant reservation Y minutes after the meeting and booking a flight Z hours after the meeting. In this manner, a mediated service commitment may be acted on in a more specific fashion.

David uses the scroll key 16d to select the '...min after meeting' arrangement option, enters 45 minutes in the corresponding time field and confirms this selection and entry by depressing the control key 16c associated with the accept action AA. In response to confirming this selection and entry, the mediation system identifies the restaurant, contacts a service management system of the restaurant and mediates the requested reservation on David's behalf according to the arrangement option specified by David. The mediation system contacts the service management system of the restaurant, such as via the Internet or via an automated or actual voice communication, for facilitating mediation of the reservation. Information associated with the restaurant are provided manually by David, garnished from the service provider preference data set in David's profile (FIG. 7) or a combination of such information input techniques. Once the reservation is confirmed by the mediation system, David is

able to review it via the pending commitment summary PCS discussed in reference to FIG. 14.

Embodiments of the systems, apparatus and methods disclosed herein provide advantageous and beneficial results relative to conventional mediation solutions. Such 5 embodiments use all appropriate and available resources to interact with a mediated party. It does not depend on the mediated party being a mediation subscriber or having a smart phone. The device independent nature, with respect to the mediate party, places few restrictions on the breadth of communication. Furthermore, mediation is carried out in a very similar manner, as would mediation done personally by the mediation subscriber.

10       The methods disclosed herein negotiate with mediated parties with the ultimate goal of connecting the two parties. Connecting the two parties may be via a scheduled telephone call or a mediated service commitment such as a taxi reservation. The objective of the mediation system is to continually and dynamically act on the behalf of the mediation subscriber when the mediation subscriber cannot personally participate in a dynamic, personal and time-consuming manner. To this end, one aspect is the ability to identify and analyze contextual information 15 associated with the mediation subscriber and the mediated party. Accordingly, advantageous and beneficial results are achieved as a result of separating the availability individuals from the availability of their respective communication devices.

Some types of the mediation subscriber communications devices, such as smart phones, 20 include data processing capabilities. For example, some smart phones are capable of running JAVA-based programs. It is contemplated that such data processing capabilities will permit at least a portion of the operations and steps of the methods disclosed herein to be performed by the mediation subscriber communication device acting as the mediation system rather than solely by a separate mediation system. For example, in some instances, it may be desirable and 25 advantageous for all or some menu follow-through actions to be prepared by the mediation subscriber communication device 16.

The various functions and components in the present application may be implemented using an information handling machine such as a data processor, or a plurality of data processing devices. Such a data processor may be a microprocessor, microcontroller, microcomputer, digital signal processor, state machine, logic circuitry, and/or any device that manipulates digital 5 information based on operational instruction, or in a predefined manner. Generally, the various functions, and systems represented by block diagrams herein are readily implemented by one of ordinary skill in the art using one or more of the implementation techniques listed herein.

When a data processor for issuing instructions is used, the instructions may be stored in memory. Such a memory may be a single memory device or a plurality of memory devices. 10 Such a memory device may be read-only memory device, random access memory device, magnetic tape memory, floppy disk memory, hard drive memory, external tape, and/or any device that stores digital information. Note that when the data processor implements one or more of its functions via a state machine or logic circuitry, the memory storing the corresponding instructions may be embedded within the circuitry that includes a state machine and/or logic circuitry, or it may be unnecessary because the function is performed using combinational logic. 15

Such an information handling machine may be a system, or part of a system, such as a computer, a personal digital assistant (PDA), a hand held computing device, a cable set-top box, an Internet capable device, such as a cellular phone, and the like.

In the preceding detailed description, reference has been made to the accompanying 20 drawings that form a part hereof, and in which are shown by way of illustration specific embodiments in which the invention may be practiced. These embodiments and certain variants thereof, have been described in sufficient detail to enable those skilled in the art to practice the invention. It is to be understood that other suitable embodiments may be utilized and that logical, mechanical, chemical and electrical changes may be made without departing from the 25 spirit or scope of the invention. For example, functional blocks shown in the figures could be further combined or divided in any manner without departing from the spirit or scope of the invention. To avoid unnecessary detail, the description may omit certain information known to

those skilled in the art. The preceding detailed description is, therefore, not intended to be limited to the specific forms set forth herein, but on the contrary, it is intended to cover such alternatives, modifications, and equivalents, as can be reasonably included within the spirit and scope of the appended claims.

TELETYPE NO. 301562650